

# *SMS MACHINE WEB*

## Installation and User Manual

Versione 4.0.0

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## Overview of this manual

This manual describes all the installation, setup and configuration procedures of SMS Machine Web.

To obtain latest information or software you can browse the Area SX web site at the address <http://www.areasx.com>

## Installation

To install the SMS Machine Web on your computer follow this procedure.

### *Prerequisites*

The SMS Machine Web software must be hosted on a PC with the following minimum hardware requirements:

- Pentium 4 processor or better
- 512 Mb of RAM memory or more
- 100 Mb of hard disk
- 100 Mbit Network card

The supported operating system are: Windows XP, Windows 2003 Server, Windows Small Business Server, Windows Vista, Windows Server 2008, Windows 7.

In order to complete installation you will need also:

- The serial code provided with the installation CD
- An Area SX modem for each channel that you would like to install
- The modem driver
- A SIM card without pin lock for each modem

### *Installing the GSM modems*

The first operation that must be performed is the USB modems installation.

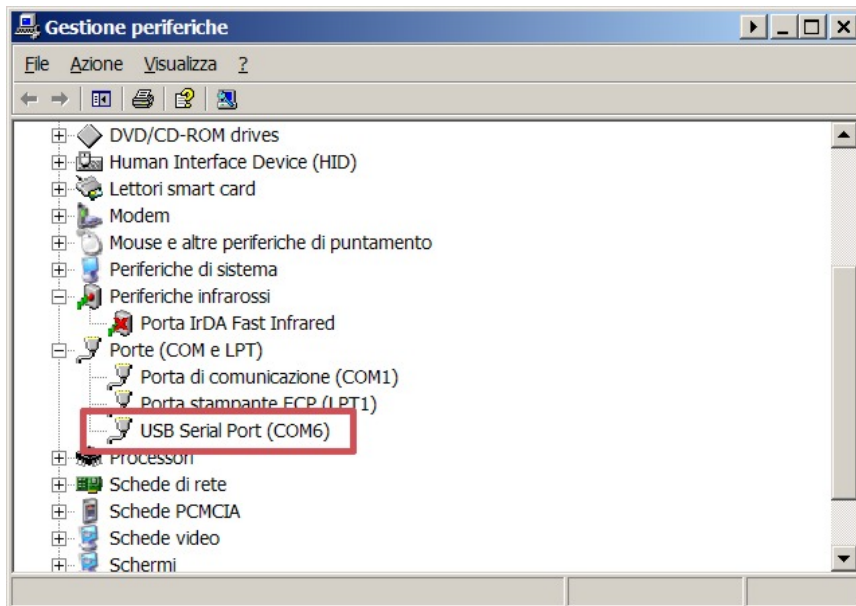
To install the GSM modems drivers (one for each SMS channel) use the CD provided with the modem itself.

Insert the SIM card into the modem, connect the modem that must be used for channel 1, run the setup program and follow the on screen instruction.

After the installation is complete you must find which serial port number has been assigned by your system to the channel.

To discover it open the **Control Panel**, go to the **System** section and select the **Hardware** button (the path to the hardware list may differ if your operating system is a Server version).

Choose the "COM and LPT port" section and you will find the desired information.



Write down the “Channel (Modem)”-“COM Port” association because you will need it later.

Repeat the driver installation and the COM port “discover” for every channel that you want to use with the SMS Machine Web.

Each modem owns a Serial Code that you can find on a sticker ontop of the modem itself:



don't lose this number and the association “GSM Modem”-“Serial Code”-“COM Port”. You will need this code during the channel setup procedure.

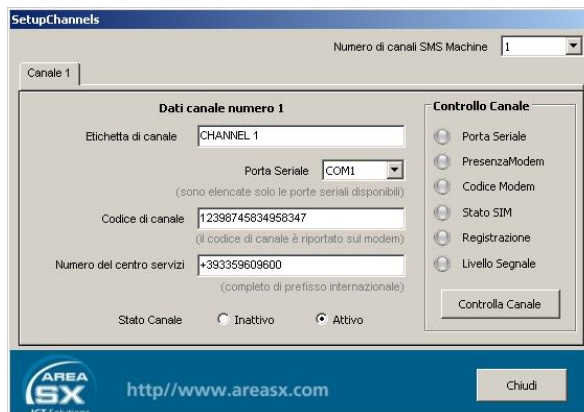
## Running the setup program

When all the desired channels are installed you can start the SMS Machine installation.

Run the SMS Machine setup provided by Area SX and follow the onscreen instructions. This setup program will install all the SMS Machine Web software in the **C:\smsmachine** folder. You cannot change the installation folder: if your target machine does not have the C drive please contact Area SX.

## Configuration of the GSM channels

When the installation is complete the Channel Setup window will be displayed:



From this window it is possible to select the number of the SMS Machine Web channels and to setup the data for each channel .

For each channel you must define:

- A text label to identify the channel
- The serial port that you have found during the modem installation
- The Channel Code (Serial Number) printed on the modem itself
- The number of the SMSC (Service Center) of your GSM operator. This parameter is not mandatory and you can leave it blank. In this case the modem will get the number directly from the SIM card. However it is **strongly recommended** to specify it for a better SMS Machine Web performance.
- The status of the channel. The status can be “Attivo” (the channel is enabled) or “Inattivo” (the channel will not be started)

When the channel data have been inserted you can press the “Controlla Canale” button in order to verify the channel operativity.

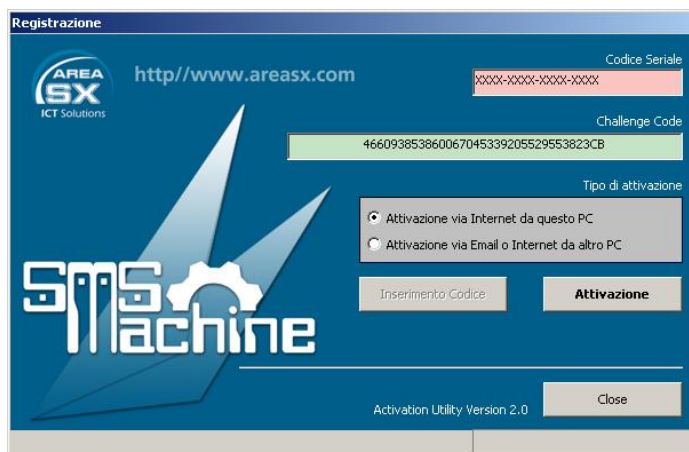
The performed tests are:

- Porta Seriale: the availability of the serial port is checked
- Presenza Modem: it is checked the presence of the modem on the specified serial port
- Codice Modem: the Channel Code is checked
- Stato SIM: it is checked the presence of the SIM card and it's unlocked state (no PIN lock)
- Registrazione: it is checked the registration of the SIM card to the GSM operator
- Livello Segnale: it is checked the received signal quality

This application to setup and check the channels is available also from the Programs menu under the SMS Machine Web folder.

## Obtaining the serial number

When you leave the Channel Setup application the SMS Machine Web Activation procedure is started:



In order to complete the activation you must insert your installation code on the Codice Seriale field. The code must be found on the installation CD: if the code is correct the background of the text field will become green.

Then you have to choose among two activation methods:

- **Attivazione via Internet da questo PC:** to use the online activation the SMS Machine Web must be connected to the Internet
- **Attivazione via Email o Internet da un altro PC:** to use the Email or Offline activation you must send the registration data to Area SX via email or transfer the registration data on a pc connected to the Internet.

In the first case you must only press the “Attivazione” button and if the data are correct the SMS Machine Web will be activated.

In the second case the file RegistrationData.txt will be created with the registration data in the C:\smsmachine\bin folder. You can send this file via Email to the address [registration@areasx.com](mailto:registration@areasx.com) or you can point your browser at the address <http://registration.areasx.com> and provide the file when requested.

When you'll receive the activation code you can restart the Activation program (that can be found under Programs->SMS Machine Web), you can choose the “Inserimento Codice” button and report your activation code.

When the SMS Machine Web is active it is ready to be started.

## Starting and Stopping SMS Machine Web service

The SMS Machine Web works as a Windows NT service; to start and stop it you can use the SMS Machine Control Panel. To load the Control Panel go to your Start menu and follow this path: *Start->Programs->SMS Machine Web->Control Panel*.

The SMS Machine Web Control Panel shown below will open:







In the window is reported the status of the services needed by the SMS Machine Web: the SMS Machine Web service itself, the Apache service and the MySQL service.

For each service there are two buttons to Start and Stop the service; below the service status is reported the registration status of the service itself. This status must be “Service OK” for each service. If an error message is displayed you must reinstall the SMS Machine Web software to solve the problem.

When the SMS Machine Web service is started you can check the status from the log files. The log files are stored in the C:\smsmachine\log folder. For a detailed description of the logs you can see the “Main software” section of this manual.

In the bottom section of the window the status of each active channel is reported; the status is depicted with an image that can be:

-  No available information
-  The channel is working
-  The channel has been restarted
-  The channel cannot be started

## ***The first access to the web interface***

When the SMS Machine Web is up and running you can point your browser to the Web interface at the address <http://localhost/>.

The main access page appears showing the active channels: choose the desired one and the login screen will appear.

To access the channel data insert the default user “admin” and the default password “admin”.

## ***The Web interface configuration***

The Web interface of the SMS Machine is already configured with the standard features. However if you have an add-on or if you want to modify some of the features it is possible to do it using the configuration page.

To enable the configuration page you must login on the desired channel, go to the Preferences and choose the “Reset Interface” button from the toolbar.

When you will login again to the desired channel a setup screen similar to the following will be shown:





From this screen you can choose a number of parameters that defines the behaviour of some advanced SMS Machine Web functions.

If your installation is standard one (no special extension required) you can leave the parameters to their default value and click the button to save the data. The setup screen will not be shown anymore for this channel. If you need to change your configuration at a later time you can re-enable the setup from the Preferences function of an administrator account.

To enable or change a parameter just click on the corresponding icon.

The available parameters are:

- **USEWAP:** enables the script that allows you to send WAP Push messages
- **SENDFAX:** enables the FAX forwarding feature. **This feature requires additional software that is not provided within the default version**
- **AUTOREMOVE:** if enabled automatically removes a session if another one is started by the same user. If not enabled the second opened session will receive a prompt asking to overwrite the already opened session
- **SPAM:** if enabled allows you to use the sender blocking function (SPAM Filter)
- **LANGUAGE:** sets the language for the web interface. The available languages are Italian and English
- **SPACER:** is the character that will be put between the pre-code (if enabled) and the SMS message. The pre-code can be enabled by administrators and it is a string that will be automatically put at the beginning of each outgoing message
- **USECHECKNUMBERS:** if enabled allows the administrators to define (from the preferences function) a list of numbers that will receive a copy of all outgoing messages sent with the broadcast function.
- **AUTOEMAIL:** enables the mail forwarding of each incoming message. **This feature requires additional software that is not provided within the default version**
- **VIDEOWALL:** enables the function to manage the publication of the messages on an external video source
- **FLASHPAGE:** enables the function to manage the publication of the messages on a flash panel. **This feature requires additional software that is not provided within the default version**

## How the SMS Machine Web works

The SMS Machine Web software is built by several components that work together. The main components are:

- The Servers
- The Core software
- The Configuration database
- The Messages databases
- The Web Interface

### The Servers

SMS Machine Web uses two standard servers: MySQL server and Apache server.

The MySQL server is needed by the software because it is used to store the system configuration: without this server the SMS Machine cannot work.

The Apache server is only used by the SMS Machine standard Web Interface so it is not mandatory unless you use this interface.

### The Core software

The main software part is made by two executables: the **Master** executable that supervises all the operations and the **smsmachine.cyclo** executable that manages the operations of the GSM channels.

Both executables write all operations made in a textual log file that you can find in the **C:\smsmachine\log** folder. The log names are:

- **Master.log**: this is the log file of the supervisor software
- **Cyclo.#.log**: this is the channel manager log file. For each configured channel a log file is generated: the identifier number of the channel is reported in the file name.

### The configuration database

The configuration database is named **concentrator** and it stores all relevant information about the SMS Machine configuration. A wrong setting in this database may result in incorrect behaviour of the SMS Machine.

The tables of this database are:

#### **answ\_config**

This table is not used and it is reserved for future use

#### **daemons**

This is the table where the GSM channels are listed. The fields are:

**id**: this is the unique identifier number of the channel

**STATUS**: if this field is set to '1' the GSM channel is enabled and the SMS Messages are sent and received. A '0' in this field disables the channel.

**Warning:** it is recommended to disable all the channel that does not have a modem installed or does not have a SIM card in the modem to avoid the generation of a great number of lines in the log file (because the channels stops and it is suddenly restarted several times per minute).

**COMMENT:** This is a text label that is reported in the login page of the user interface. You can use it to write the SIM number or whatever you want.

**APPNAME:** this field is used to enable extra services for the channel (requires additional software). The extra services can be the automatic email forwarding, the auto answering machines and so on.

**HEALTH:** this field is used to communicate the channel status to the Control Panel application

## dev\_gnokii

This table it's not used

## dev\_gsmmodem

This table reports the configurations for each GSM modem installed on the SMS Machine.

**id:** record identifier

**DEVICE:** serial port number (Linux Style) of the GSM modem. The Linux Style serial ports are in the form **/dev/ttyS##** where **##** is the number of the serial port itself, starting from 0. So if your modem is installed on COM3 the Linux Style serial port will be **/dev/ttyS02**.

**BAUDRATE:** serial port speed (must be '9600' baud)

**DATALEN:** data length bit (must be '8')

**STOPBIT:** stop bit number (must be '1')

**PARITY:** parità (must be 'N')

**MAXERRORS:** maximum number of allowed channel errors. Above this number of errors the channel is restarted

**GSMNUMBER:** this is the number of the SIM card inserted in the GSM modem. This field is not used by SMS Machine.

**CODE:** this is the channel unlock code that you can find in the sticker provided with the modem. If you cannot find the unlock code or you lost the unlock code you can request it to Area SX.

**SMSC:** this is the number of the Messages Service Center of your GSM Network operator. It must be inserted in the international form (for Italy +39xxxxyyyyyy)

## dev\_mysql

This table reports the configurations for all the MySql connection that the SMS Machine must use to get the SMSs to transmit and where to put the received SMSs.

**id:** record identifier

**HOSTNAME:** IP address of the server that hosts the database

**USERNAME:** user name to access the database

**PASSWORD:** password to access the database

**DB:** database name

**INPUTTABLE:** name of the table where the incoming SMSs will be stored

**OUTPUTTABLE:** name of the table where the outcoming SMSs will be taken

**MAXERRORS:** maximum number of link errors. Above this number of error the connection will be restarted

**MAXREPEAT:** (not used)

## links

This table describes how all the previous tables and records are linked together to build a transmission and reception channel.

**id:** record identifier

**SRC\_TB:** name of the table source of the data (dev\_mysql or dev\_gsmmodem)

**SRC\_ID:** identifier of the record source of the data in the SRC\_TB

**DST\_TB:** name of the table destination of the data (dev\_mysql or dev\_gsmmodem).

**DST\_ID:** identifier of the record destination of the data in the DST\_TB

**CRITICAL:** if it is set to '1' the link is critical (a failure in link will cause the channel to restart). If it is set to '0' the transfer errors will be ignored.

**STATUS:** if it is set to '1' the link is "active" and it is used, if '0' this record will be ignored

**REFERENCE:** reports the channel unique identifier (daemons table) to which the link pertains

An example of configuration is the following:

If you desire that the channel with ID 4 gets its messages from GSM Modem listed in the record number 3 of dev\_gsmmodem table and puts them in the database listed on table dev\_mysql at the record id 2 the link will be:

id: (automatically chosen by mysql)

SRC\_TB: dev\_gsmmodem

SRC\_ID: 3

DST\_TB: dev\_mysql

DST\_ID: 2

CRITICAL: 1

STATUS: 1

REFERENCE: 4

## main

This table holds the value for several global configuration parameters. Each row stores a couple varname-varvalue. The record structure is:

**id:** record identifier

**varname:** name of the variable

**varvalue:** value of the variable

The allowed variable names are:

**RESTART:** if this variable is set to '1' all the channels will be restarted daily

**RESTARTHOUR:** this variable holds the hour of the daily restart

**KEYSTRING:** this is the variable that holds the SMS Machine Web serial number

**MESSAGESLEVEL:** this variable sets the amount of messages that will be produced in the Master log file. The allowed values are:

- 0 – Only Errors

- 1 – Errors and informations
- 2 – Verbose log with errors, informations and extra data

## The messages databases

The messages databases are the repositories where the incoming and outgoing messages are stored. These databases can have whatever name you like and can receive and/or transmit messages for one or more channels, depending from *concentrator* configuration.

By default the SMS Machine uses one messages database for each configured channel: the database is named messages##, where ## is a sequential number. If you want you can change the database name, the database hosting server, the tables name, the database structure (with some caveat that you will find here below) and every other aspect of this repository.

The default database structure is stored in an SQL file that you can find in the C:\smsmachine\doc folder.

The default messages database contains several tables that are mainly used by the SMS Machine Web interface. There are only three tables that are mandatory to the SMS Machine Web and that have a required minimal structure.

### inpmmsglog (Received messages log table)

This table holds a copy of the incoming SMS messages. This table is not strictly mandatory but it is used by the standard Web Interface to perform statistics and logging.

The name of the table and the hosting server can be changed to follow your needs.

The default table structure is:

```
CREATE TABLE `inpmmsglog` (
  `counter` bigint(11) NOT NULL auto_increment,
  `gsmnumber` varchar(30) NOT NULL default '',
  `readdate` datetime NOT NULL default '0000-00-00 00:00:00',
  `userid` char(3) NOT NULL default '0',
  `message` varchar(255) NOT NULL default '',
  `state` tinyint(4) NOT NULL default '0',
  `msgdate` datetime NOT NULL default '0000-00-00 00:00:00',
  `configid` int(11) NOT NULL default '0',
  `trashed` tinyint(4) NOT NULL default '0',
  `msgid` int(11) NOT NULL default '0',
  `msgparts` int(11) NOT NULL default '0',
  `msgtype` int(11) NOT NULL default '0',
  PRIMARY KEY (`counter`)
) TYPE=MyISAM;
```

The fields description is reported below: the **red** fields names are the mandatory fields that are filled by the SMS Machine Web software upon message reception.

**counter**: record unique identifier. It is automatically generated

**gsmnumber**: GSM number of the message sender

**readdate**: message reception date

**userid**: (not used but required)

**message**: received message text

**state**: reception status (always 0)

**msgdate**: SMS message sending date (stored in the message itself). If the message is a Status Report message (see below) this is the reception date

**configid**: number of the channel that has received the message

**trashed**: Recycle bin flag. It is used by the SMS Machine web interface. This field is not mandatory if you don't use the default web interface.

**msgid**: is the internal ID of the message. It is used to collate the different parts of multipart messages.

**msgparts**: is the number of parts of a multipart messages that are left to receive

**msgtype**: is a message type identifier. '0' means a standard message, '1' a multipart message and '2' a status report message

## inpmgqueue (Received messages table)

This table holds the incoming SMS messages.

The name of the table and the hosting server can be changed to follow your needs.

The default table structure is:

```
CREATE TABLE `inpmgqueue` (
  `counter` int(11) NOT NULL auto_increment,
  `gsmnumber` varchar(30) default NULL,
  `readdate` datetime default '0000-00-00 00:00:00',
  `userid` char(3) default '0',
  `message` varchar(255) default NULL,
  `state` tinyint(4) default '0',
  `msgdate` datetime default '0000-00-00 00:00:00',
  `configid` int(11) default '0',
  `isnew` set('Y','N') default 'Y',
  `ispublic` tinyint(4) default '0',
  `trashed` tinyint(4) default '0',
  `id_gruppo` int(11) NOT NULL default '-1',
  `forward` int(11) NOT NULL default '0',
  `exported` int(11) NOT NULL default '0',
  `msgid` int(11) NOT NULL default '0',
  `msgparts` int(11) NOT NULL default '0',
  `msgtype` int(11) NOT NULL default '0',
  PRIMARY KEY (`counter`)
) TYPE=MyISAM;
```

The fields description is reported below: the **red** fields names are the mandatory fields that are filled by the SMS Machine Web software upon message reception.

**counter**: record unique identifier. It is automatically generated

**gsmnumber**: GSM number of the message sender

**readdate**: message reception date

**userid**: (not used but required)

**message:** received message text

**state:** reception status (always 0)

**msgdate:** SMS message sending date (stored in the message itself). If the message is a Status Report message (see below) this is the reception date

**configid:** number of the channel that has received the message

**isnew:** new messages flag. It is used by the Web Interface and it is not mandatory

**ispublic:** publication flag messages. It is used by the Web Interface and it is not mandatory

**trashed:** Recycle bin flag. It is used by the SMS Machine web interface. This field is not mandatory if you don't use the default web interface.

**id\_gruppo:** (not used and not mandatory)

**forward:** flag for the mail forward feature (optional). If the mail forward is used this field must be left unmodified and it is mandatory

**exported:** Flag for the exported messages. It is used by the Web Interface and it is not mandatory

**msgid:** is the internal ID of the message. It is used to collate the different parts of multipart messages.

**msgparts:** is the number of parts of a multipart messages that are left to receive

**msgtype:** is a message type identifier. '0' means a standard message, '1' a multipart message and '2' a status report message

## outmsgqueue (Outcoming and Sent Messages table)

This table holds the outcoming SMS messages and the sent SMS Messages.

The name of the table and the hosting server can be changed to follow your needs.

The default table structure is:

```
CREATE TABLE `outmsgqueue` (
  `counter` bigint(11) NOT NULL auto_increment,
  `gsmnumber` char(30) default NULL,
  `writedate` datetime default '0000-00-00 00:00:00',
  `senddate` datetime default '0000-00-00 00:00:00',
  `message` char(255) NOT NULL default '',
  `state` tinyint(4) default '1',
  `configid` int(11) default '0',
  `trashed` int(11) default '0',
  `port` int(11) NOT NULL default '0',
  `id_gruppo` int(11) NOT NULL default '-1',
  `pdu_mode` int(11) NOT NULL default '0',
  `statusreport` int(11) NOT NULL default '-1',
  `msgid` int(11) NOT NULL default '0',
  PRIMARY KEY (`counter`)
) TYPE=MyISAM;
```

The fields description is reported below: the **red** fields names are the fields that are updated by the SMS Machine Web software during and upon message transmission. All the fields are mandatory unless otherwise noted.

**counter:** record unique identifier. It is automatically generated

**gsmnumber:** message destination GSM number

**writedate:** message queuing date

**senddate:** message send date

**message:** text of the message

**state:** send status (see below)

**configid:** number of the channel that must send the message. This parameter is used to do load balancing and multi channel sending.

**trashed:** Recycle bin flag. It is used by the SMS Machine web interface. This field is not mandatory if you don't use the default web interface.

**id\_gruppo:** (not used and not mandatory)

**pdu\_mode:** if it is '0' indicates a standard message if '1' a special push message that must be sent directly in PDU format

**statusreport:** is the value of the Status Report request. If it is '-1' no Status Report is requested for the message, if it is '-2' the Status Report has been requested but it has not been received yet. Positive values are the Status Report codes reported by the GSM network; the meaning of each code can be found in the table below:

Value	Description
0x00	Short message delivered successfully
0x01	Forwarded, but status unknown
0x02	Replaced
0x20	Congestion, still trying
0x21	Recipient busy, still trying
0x22	No response recipient, still trying
0x23	Service rejected, still trying
0x24	QOS not available, still trying
0x25	Recipient error, still trying
0x40	RPC Error
0x41	Incompatible destination
0x42	Connection rejected
0x43	Not obtainable
0x44	QOS not available
0x45	No internetworking available
0x46	Message expired
0x47	Message deleted by sender
0x48	Message deleted by SMSC
0x49	Does not exist

**msgid:** is the internal ID of the message. It is used to manage the Status Report requests.

Every record (message) that you add to this table will be automatically transmitted and flagged by the



SMS Machine. When a new record (message) is appended to the table the **state** field must be set to '1'.

This field will be updated by the SMS Machine to signal the SMS trasmission tries. If the message transmission fails for a predefined amount of times the field is set to '0' and the message will be marked as definitively failed. If the message is correctly sent the field is set to a negative number (-1 if the message has been transmitted at first try, -2 if at the second and so on).

## ***The SMS Machine Web password system***

In this section are reported the procedures to change the passwords to access the configuration database and the messages databases.

The procedures to change the user and password on the MySQL server databases are not explained in this document: if you need more information about this topic please refer to the MySQL documentation.

### **The configuration database**

The default connection data for the configuration (concentrator) database are:

- Username: dummy
- Password: (none)

This user and password couple is used by the software to access the configuration data stored in the concentrator database. To change the concentrator database user and password edit the text file **config** that you will find in the **C:\smsmachine\etc** folder.

In this file you can change the username, the password and also the server that hosts the configuration database: it is recommended to keep the configuration database in the same PC of the GSM channels. It is also a good choice to allow the user to access only the concentrator database and only from localhost.

### **The messages databases**

The connection to the messages databases is made using the credential stored in the concentrator database (dev\_mysql table). To change the connection data (host, username, password) just edit this table for the desired channel.

The default configuration is:

- Username: root
- Password: (none)

If you change the connection data for a database and you use the standard Web Interface you must also edit the connection data for the interface itself. To do so go to the **C:\smsmachine\servers\www\include** folder and edit the **global.inc.php** file.

On top of this file there are two sections: one for the configuration database and one for the messages database.

## ***How to access the database from the network***

In the default configuration the MySQL server installed on the SMS Machine does not allow connections from any host in the LAN: the only connection available is from localhost.

If you need to access the MySQL database from a different PC in the network you must edit the configuration file `my.ini`.

The file is stored in the `C:\smsmachine\servers\mysql` folder: you can open it using a simple text editor (Notepad).

To allow the server to listen for incoming connections you must edit the *bind-address* parameter and set it to **0.0.0.0** value.

Remember that you need also an user allowed to receive external connections: to set up such a user you can refer to the official MySQL documentation.

SMS Machine Web is made by:



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